

Title (en)

Method for manufacturing a thin-film EAS marker.

Title (de)

Herstellungsverfahren für Dünnschichtmarkierung für elektronische Artikelüberwachung.

Title (fr)

Méthode de fabrication d'une étiquette à couche mince pour la surveillance d'articles.

Publication

**EP 0661723 A2 19950705 (EN)**

Application

**EP 94120278 A 19941221**

Priority

US 17579093 A 19931230

Abstract (en)

A method for manufacturing a nonlinear, dual-axis thin-film magnetic device which can be used as an electronic article surveillance system marker. The method includes providing a substrate having a surface characterized by first and second generally perpendicular axes. A magnetic field oriented parallel to the first axis is applied on the surface of the substrate. A first stack of relatively thin thin-film magnetic layers separated by nonmagnetic thin-film layers is grown on the substrate. The relatively thin thin-film layers are grown in the presence of the magnetic field to a thickness sufficiently thick that the layers exhibit magnetic properties that are substantially independent of surface effects, but sufficiently thin that the easy axis of magnetization is oriented parallel to the second axis. A second stack of relatively thick thin-film magnetic layers separated by nonmagnetic thin-film layers is grown on the first stack. The relatively thick thin-film layers are grown in the presence of the magnetic field to a thickness sufficiently thick that the easy axis of magnetization is oriented parallel to the first axis.

IPC 1-7

**H01F 41/14**; **G08B 13/24**

IPC 8 full level

**G08B 13/24** (2006.01); **G11B 3/70** (2006.01); **H01F 10/32** (2006.01); **H01F 41/14** (2006.01); **H01F 41/30** (2006.01)

CPC (source: EP US)

**B82Y 25/00** (2013.01 - EP US); **B82Y 40/00** (2013.01 - EP US); **G08B 13/2408** (2013.01 - EP US); **G08B 13/2437** (2013.01 - EP US); **G08B 13/244** (2013.01 - EP US); **G08B 13/2442** (2013.01 - EP US); **H01F 10/3254** (2013.01 - EP US); **H01F 41/302** (2013.01 - EP US); **Y10S 428/90** (2013.01 - EP US); **Y10T 428/31681** (2015.04 - EP US); **Y10T 428/31786** (2015.04 - EP US)

Designated contracting state (EPC)

BE DE FR GB NL SE

DOCDB simple family (publication)

**US 5405702 A 19950411**; CA 2137321 A1 19950701; DE 69425873 D1 20001019; DE 69425873 T2 20010111; EP 0661723 A2 19950705; EP 0661723 A3 19950719; EP 0661723 B1 20000913; JP H07282365 A 19951027

DOCDB simple family (application)

**US 17579093 A 19931230**; CA 2137321 A 19941205; DE 69425873 T 19941221; EP 94120278 A 19941221; JP 31676994 A 19941220